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ABSTRACT

The Media Center at State Fair Community College and State Fair Area Vocational-Technical School worked to develop a set of individualized/mediated curriculum for use in eight different vocational-technical programs in Missouri. The team developed, produced, evaluated, revised, and duplicated 28 videotape and 10 slide/tape individualized and group instructional modules (including instructor and student guides) dealing with the following program areas: electronics (11 modules), building trades (10 modules), Missouri Vocational Industrial Clubs of America (7 modules), and health for special needs students (10 modules). An additional 24 learning modules were field-tested for use in the following subject areas: auto mechanics (11 modules), machine shop (10 modules), high technology (1 module), and business and office (2 modules). In the opinion of the project advisory committee members who critiqued them, the modules were all either good or excellent and as good as or superior to corresponding commercially produced materials. Information on the modules was disseminated statewide, and the modules themselves were disseminated on a cost recovery basis. In addition, information about the modules and technical assistance was provided to Missouri institutions requesting help in using the materials. (MN)

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FINAL REPORT

INDIVIDUALIZED/MEDIATED CURRICULUM MATERIALS DEVELOPMENT FOR VOCATIONAL EDUCATION

Project No. 87-133-110-2 (126-126)

Mo 8713303

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Submitted to

Missouri Department of Education
Research Coordinating Unit
Jefferson City, MO 65102

June 30, 1987

CDU/8626

A B S T R A C T

TITLE: MEDIATED CURRICULUM MATERIALS DEVELOPMENT FOR VOCATIONAL EDUCATION

PRINCIPLE INVESTIGATORS: Mrs. Shirley Evans, Dean of Vocational-Technical Education
Dr. Amy Young, Director of The Media Center

INSTITUTION: State Fair Community College/State Fair Area Vocational-Technical School

LOCATION: 1900 Clarendon Road, Sedalia MO 65301

PHONE NO.: 816/826-7100

STARTING DATE: July 1, 1986 ENDING DATE: June 30, 1987

OBJECTIVES OF THE PROJECT:

The major outcomes of this project were:

1. Development, production, evaluation, revision, and duplication of 28 videotape and 10 slide/tape individualized or group instructional modules, including instructor guide, student guide, and evaluation, if applicable, in the following program areas:
 - a. Electronics - 11 modules
 - b. Building Trades - 10 modules
 - c. Missouri Vocational Industrial Clubs of America - 7 modules
 - d. Special Needs Health - 10 modules to assist special needs students. Scripts were developed from the existing IML Curriculum Guide.
2. Field tested 24 modules developed in FY-86 and provided one copy to the Research Coordinating Unit.
 - a. Auto Mechanics - 11 modules
 - b. Machine Shop - 10 modules
 - c. High Technology - 1 module
 - d. Business and Office - 2 modules
3. Disseminated information about modules statewide and disseminated modules on a cost recovery basis.
4. Provided information about modules and technical assistance to Missouri institutions requesting help with implementation of materials disseminated through the Center.

MAJOR CONCLUSIONS:

1. The instructional materials which were developed were rated as "excellent" or "good" by the advisory committee members who critiqued them. The quality of the modules is as good as or superior to those produced commercially.

2. Improvements in project operating procedures resulted in completion of the modules on a regular schedule throughout the year and these procedures will be even more refined in FY-88.

A. STATEMENT OF PROBLEM

The Mediated Curriculum Materials Development for Vocational Education project was conducted in response to a request for a proposal from the Research Coordinating Unit, Missouri Department of Elementary and Secondary Education.

The need for the curriculum project as stated in the RFP was to develop new and updated curricular materials to provide vocational students with job entry and advancement skills in existing and emerging occupational fields. Since students articulate into programs from a variety of backgrounds and do not progress at the same rate, individualized instruction materials are needed to facilitate articulation between institutions and programs, individual progress and open-entry scheduling.

Although packaged instructional programs are available from numerous sources, the following problems are encountered by the classroom instructor when selecting and implementing these materials.

1. Instructors purchase instructional materials which are not appropriate for their vocational programs. This occurs for the following reasons:
 - a. The vocational classroom teacher has numerous responsibilities, one of which is curriculum improvement and development. Their schedule does not permit research, evaluation, and selection of the highest quality instructional materials for the best price.
 - b. Some vendors do not provide for preview of materials prior to purchase and others provide only a sample for preview.
 - c. Commercial companies generally develop materials for a nationwide market. These materials must be very general in nature to be marketable.
2. Commercially prepared materials are expensive and frequently available only as a series. Vocational instructors find these materials to be cost prohibitive considering their limited budgets.

3. Few instructors are able to develop instructional modules including slide/tape or videotape presentations independently. Those who do help develop audiovisual materials feel that their work should benefit other instructors as well through a system for sharing materials.

This project has been conducted to develop effective individualized and/or group mediated instructional modules for Missouri vocational education programs.

The modules developed are:

1. Customized to meet the needs of Missouri vocational education programs.
2. Produced under high quality standards.
3. Evaluated by groups of Missouri vocational educators and industry personnel.
4. Field tested in vocational education programs in Missouri.
5. Available on a cost recovery basis.

Brief Historical Perspective

The Missouri Department of Elementary and Secondary Education, through the Research Coordinating Unit, began issuing RFPs for vocational education curriculum development in FY-81. For the past six years, State Fair Community College has been the successful bidder for the Mediated Curriculum Development project.

RCU staff have worked to (1) make the RFP specific and, when possible, begin the curriculum development process in the department sections, (2) issue the RFP and award projects early in the spring, and (3) assist with the dissemination effort. Goals one and two are a reality based on the accomplishments of the last four years. Assistance has been provided with dissemination in the past three years.

The Media Center has also worked during the past five years to improve project outcomes and accomplish the following goals:

1. Customize curriculum materials development and involve classroom instructors by having vocational educators from throughout the state serve as advisory committee members and technical content experts.

2. Develop high quality slide/tape and videotape presentations that would be superior to instructional materials available from commercial vendors.
3. Disseminate materials to Missouri vocational education institutions.
4. Complete the project on schedule.

In our opinion, goals one, two, and four have been accomplished. A great deal of additional emphasis has been put on dissemination the past three years, such as massive bulk mailings of brochures to areas not previously reached and exhibits to areas not previously used.

The FY-86 project was completed by June 30, 1986, and the FY-87 project will be completed by June 30, 1987.

In an effort to maintain a full-time staff of production specialists, The Media Center enters into contracts to produce a variety of instructional materials for other agencies, as well as for businesses and industries.

Key factors in the development procedures which contributed to successful completion of the project were:

1. A master schedule for the year was developed, and advisory committees met regularly every three months to review and critique written scripts before they were produced.
2. Since the committees met regularly, slide/tape or videotape presentations were completed and evaluated at the second, third, and fourth meetings; and module revisions were made immediately after review by the committee.
3. During FY-87 The Media Center provided a scriptwriter that met with each technical content expert on an individual basis. Utilizing this method resulted in having copies of the scripts ready for review at the second meeting.
4. The advisory committee members were dedicated to the curriculum development task and completed their assignments in a professional manner.
6. The Media Center staff was experience and dedicated to meet the objectives of the project.

Major goals for further refinement of the curriculum development and dissemination process during the FY-88 project will be to (1) improve the

overall quality of student and instructor guides, (2) improve the field testing procedure, and (3) increase dissemination of modules. The quality standards and production procedures of the past will be maintained and enhanced.

B. OBJECTIVES

The major outcomes of this project were:

Objective 1: To develop, produce, evaluate, revise, and duplicate copies of 38 videotape or slide/tape individualized or group instructional modules, including instructor guide, student guide, and evaluation, if applicable, in the following program areas:

- a. Electronics - 11 modules
- b. Building Trades - 10 modules
- c. Missouri Vocational Industrial Clubs of America - 7 modules
- d. Special Needs Health - 10 modules to assist special needs students. Scripts were developed from the existing IML Curriculum Guide.

Modification: The initial project was modified from 10 modules in Electronics to 11 and from 8 modules in VICA to 7.

Results:

Modules were prepared in the above four areas. Technical experts provided the content to a Media Center scriptwriter. The technical experts also set up the live photography. A complete listing of the modules follows:

Electronics

- E-87-100 The Electronics Industry
- E-87-300 Oscilloscope Concepts, Part I
- E-87-301 Oscilloscope Concepts, Part II
- E-87-310 Semi-Conductor Materials
- E-87-320 DC Power Supplies
- E-87-330 Bipolar Transistor Amplifiers
- E-87-331 J-FET Amplifiers
- E-87-332 Operational Amplifiers
- E-87-333 Amplifier Troubleshooting
- E-87-340 Microprocessor Fundamentals
- E-87-350 Microcomputer Fundamentals

Building Trades

- BT/C-87-105 Plumbing Rough-In
- BT/C-87-193 Roof Preparation for Three-Tab Shingles
- BT/C-87-194 Application of Three-Tab Composition Shingles
- BT/C-87-195 Laying Out and Constructing a Stairway, Part I: Terminology and Calculations
- BT/C-87-196 Laying Out and Constructing a Stairway, Part II: Layout and Cutting
- BT/C-87-197 Laying Out and Constructing a Stairway, Part III: Installation

Building Trades (continued)

BT/C-87-230 Exterior Door Installation
 BT/C-87-231 Exterior Window Installation
 BT/C-87-232 Exterior Wall Coverings
 BT/C-87-300 Electrical Rough-In

Vocational Industrial Clubs of America

V-87-100 Go for It--VICA
 V-87-101 VICA Fits
 V-87-111 The Agenda: Getting it Together
 V-87-112 The Agenda in Action
 V-87-113 The Committee at Work
 V-87-120 Your VICA Club--A Road Map to Success
 V-87-130 Think Before You Speak

Health Occupations

HO-87-1100 Communicating with Patients and Co-Workers
 HO-87-1201 Temperature, Part I
 HO-87-1202 Temperature, Part II
 HO-87-1203 Pulse and Respiration
 HO-87-1204 Blood Pressure
 HO-87-1206 Weighing and Measuring
 HO-87-1207 Measuring Intake and Output
 HO-87-1210 Body Mechanics
 HO-87-1400 Arranging Daily Care of Patients
 HO-87-1401 Developing Professional Work Attitudes

The curriculum advisory committees were composed of vocational educators from various parts of the state. Listed are the committee members for each curriculum area.

Electronics

Bill Franken, Maplewoods Community College
 Ed Carter, Columbia Area Career Center
 Mark Murphy, Mexico AVTS
 Don Campbell, Boonslick AVTS
 John Chappell, State Fair Community College
 David Adams, Department of Education

Building Trades

John Hopkins, Pike & Lincoln Co. AVTS
 Gale Ross, Moberly AVTS
 Larry McKnight, Special School District of St. Louis
 Virgil Wills, State Fair AVTS
 Judith Perryman, Department of Education

Missouri Vocational Industrial Clubs of America

Mike Regauld, National VICA Office
 Bonnie Wesemann, Cass Co. AVTS
 Lanette Meyer, North Co. Tech High School
 Bill Sheehy, Arcadia Valley AVTS
 Diann Wolff, Four Rivers AVTS
 Bob Armes, Clinton AVTS
 David Adams, Department of Education

Health Occupations

Marilyn Moore, Cass Co. AVTS
 Sandra Chappell, State Fair Community College
 Beleta Shaul, Warrensburg AVTS
 Vada Arrowood, Department of Education

Objective 2: To conduct a field test of 24 modules developed in FY-86 and provide one copy to the Research Coordinating Unit.

- a. Auto Mechanics - 11 modules
- b. Machine Shop - 10 modules
- c. High Technology - 1 module
- d. Business & Office - 2 modules

Results:

The modules were field tested primarily in the institutions represented on the curriculum advisory committees. Field test records are kept on file in The Media Center. The results of the field testing show that the modules developed during FY-86 were effective learnign tools, and only minor corrections were required.

Objective 3: To disseminate information about modules statewide and disseminate modules on a cost recovery basis.

Results:

This is continuously ongoing. Additional marketing strategies are explored on an on-going basis. During FY-87, a new catalog was produced and mailed to Missouri vocational educators.

Objective 4: To provide information about modules and technical assistance to Missouri institutions requesting help with implementation of materials disseminated through the Center.

Results:

Numerous requests for information were processed via telephone or mail communications.

C. POPULATION AND SAMPLE

Curriculum advisory committee members and field test institutions were recommended by Section Directors or Supervisors, Division of Career and Adult Education, Department of Elementary and Secondary Education.

During the project, 18 vocational educators served as technical content experts, advisory committee members, or field test participants. Modules are being used in approximately 200 Missouri institutions--in 50 of Missouri's 58 area vocational schools and in all 13 of Missouri's community colleges.

D. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions were reached based on the project results:

1. The instructional materials which were developed were rated as "excellent" or "good" by the advisory committee members who critiqued them. They are considered to be superior to similar materials available commercially.
2. In order to complete production of all modules during one fiscal year, the following procedures must be enforced: (a) the project must be awarded in early spring, (b) advisory committees must meet before school is out in May, (c) scripts should be written by Media Center staff and copies must be available for advisory committee members, (d) advisory committee meetings should be scheduled every three months, and (e) modules must be completed on a regular schedule each quarter.
3. The advisory committee critique of scripts before they are produced has improved the quality of presentations and has improved the productivity of the production phase of the project.

The following recommendations are made based on the conclusions:

1. The procedures used to conduct the project have been successful and should be continued and refined.
2. The project was awarded in late spring of FY-86. This award permitted a spring meeting to outline the FY-87 project. At this meeting module topics were identified, and an analysis of each topic was completed. This same procedure should be followed next year and refined as indicated.
3. Field test materials should be mailed in late spring. This will permit instructors to use them in their programs in the fall.
4. Dissemination activities should continue to the degree permissible with budgetary restraints. All project participants should become involved in the dissemination effort, including Department of Education staff members.

E. DISCLAIMER

The activity which is the subject of this report was supported in whole or in part by funds from the Department of Elementary and Secondary Education, Division of Career and Adult Education. However, the opinions expressed herein do not necessarily reflect the position or policies of the Missouri Department of Elementary and Secondary Education or the Division of Career and Adult Education, and no official endorsement should be inferred.

REPORT OF MODULE DISSEMINATION
IN MISSOURI
July 1, 1979 to June 30, 1987

Program Area

School	AB	ACR	AM	BT	B&O	DA	EL	EN	GA	HO	HT	MS	PEP	SEQ	SN	WD
Arcadia Valley AVTS					14					4						
Bell City School District													2			
Bismarck School District					1											
Bloomfield Public Schools					2											
Blue Hills Homes Corp.					4											
Blue Springs School Dist.													1			
Bolivar High School													9			
Boone County School Dist.					5								1			
Boonslick AVTS					5					10						
Boonville Public Schools					8					13						10
Branson School District										9			1			
Braymer School District					2											
Bronough R-7 Schools													1			
Buffalo Schools					3											
Camdenton School Dist.		13														
Cameron High School					1											
Cape Girardeau Schools															2	8
Carl Junction High School					1											
Carrollton School District					46					18						
Carthage School District					1					2						
Carthage Probation & Parole													18			
Central MO State University			15				1						1			
Central Sr. High School					1											
Chamois School District					8								8			
Chillicothe AVTS			1		4					5			3		9	
Citizens' Adv. Bd., Carthage													1			
Clarkton School District					1											
Clinton AVTS		13			6					1	1		9			
Clinton Co. School Dist.					1											
Columbia Area Career Ctr.					2											14
Columbia Public Schools			14		3					7			1			
Cox Medical Center										2						
Crowder College															1	
Current River Voc. Consortium										24						18
Dallas Co. AVTS	7									25			6			
Department of Education														7		
Dexter High School					2								4			
Div. of Employment Security													4			
Dixon High School					10								2			
East Central Jr. College					5					7			10			
East Prairie School Dist.					18								9			
EDP Ed. Center, Jeff City														2		
El Dorado Springs Schools				3												
Eminence School District			2					1					1		1	
Eureka High School					6											
Excelsior Springs AVTS					1											
Excelsior Spgs. Job Corp Ctr.					1											
Fatima H. S., Westphalia													4			

Program Area

School	AB	ACR	AM	BT	B&O	DA	EL	EN	GA	HO	HT	MS	PEP	SEQ	SN	WD
Ferguson/Florissant Sch. Dist.					1											
Fordland School Dist.					1											
Forsyth R-III Schools				1	7											
Fort Osage AVTS	8		15		1					14		1	9	1		13
Ft. Worth-Indep. Sch. Dist.														2		
Fort Zumwalt Sch. Dist.					1											
Francis Howell Sch. Dist.					2											
Franklin Tech School										2						
Fredericktown High School					4					3			4			
Gainesville High School			1													
Gasconade School District					10											
Gentry Co. Memorial Hosp.										1						
Graff AVTS					2	10				75						
Grain Valley School					2											
Grandview High School												4				
Grundy Co. Sch. District					2											
Hannibal Area Vo-Tech			1		1		1					7		1		
Harrisonville-Cass Schools		23										1	9		1	
Hazelwood East High School					8					2						
Helias High School					8											
Health Careers High School										1						
Herculaneum High School					1											
Hillsboro Public Schools			2					2								
Hodge, John F. High School													9			
Holman Jr. High School										2						
Incarnate Word Acad., St.Louis					1								2			
Independence Public Schools								6				2				
Jasper Public Schools													2			
Jeff City Bd. of Probation					1					1			7			
Jefferson City Public Schools			11		1					1			49			4
Jefferson College					26								13		4	
Kansas City Reg. Center										2						
Kansas City School Dist.		13			1					5						
Kansas City Tech Center																1
Kennett Area School					1											
King City R-I													2			
Kirkville AVTS					34					19			9			
Kirkwood School District					1											
Laclede Area Voc. School					2					36			1			
Laddonia Comm. Sch. Dist.					1											
Lafayette Sr. High School					12											
Lake Area Voc. School										36			5			
Lakeland R-3 Schools					8											
Lamar Area Vo-Tech										2						
Lebanon R-III Schools					6											
Lee's Summit Sch. Dist.					2											
Lewis & Clark Tech School	7				2					2			1	1		1
Lexington School District					2											11
Licking School District					2											
Linn Co. R-I					8								3			
Linn Tech Center			2													
Longview Comm. College							6						9			
Lutheran High School South					1											
Malden High School					2											
Maplewood-Richmond Hgts. Sch.					2											

Program Area

School	AB	ACR	AM	BT	B&O	DA	EL	EN	GA	HO	HT	MS	PEP	SEQ	SN	WD
Marshall Area Vo-Tech													9			
Marshall School Dist.													11			
Maryville AVTS					2											
Maysville High School					1									1		
Medical Ctr. of Independence										1						
Mehlville Sr. High, St. Louis					3											
Mexico Public Schools					4					11			8	2		
Mineral Area College					1		1						4		8	
MO League Nursing Home Adm.										1						
MO Southern State College										9						
MO Western State College					2											
MO Valley Human Resources													2			
Moberly Junior College					55					5			14	2		
Moberly Public Schools										7						
Morgan County Schools					2			3		3			7			
Mountain Grove AVTS													25			
Mountain View-Birch Tree R-3				18												
Nevada AVTS	9		1	2	2					9			9			
Nevada State Sch. & Hosp.										2						
North Kansas City Sch. Dist.			14													
Northeast R-IV Sch. Dist.					1											
Nichols Career Center					3											14
New Madrid County Vo-Tech					2					5						
North Co. School Dist.					4											
North Kansas City H. S.					3								1			
Northwest Missouri AVTS					7											
Northwest MO State Univ.										7		16				
Normandy Sch. Dist., St. Louis															1	
Oak Haven Manor, Warsaw										2						
Oakville Sr. High, St. Louis					1											
Odessa R-VII Schools													1			
Oregon Co. School Dist.													4			
Ozark Area Community Action													3	2		
Park Hill School Dist.												2				
Parkway Sr. High, St. Louis					1								9			
Parkway School Dist.					4							4				
Pemiscot Co. Special Dist.										16						
Penn Valley Comm. College					26					9			8	8		29
Perryville AVTS					38					1						
Pike & Lincoln AVS			6		1					14					1	2
Platte County Vo-Tech					27					26					7	19
Poplar Bluff Sch. Dist.				3			10						4			
Potosi High School					8								2			
Ranken Tech Institute	2															
Raphael Center Hospital										2						
Raymore-Peculiar H. S.					4								4			
Raytown School District																3
Raytown South High School														1		
Reeds Spring Public Schs.					4					32			13			
Rehab. Inst., Kansas City					1											
Reorganized Schs., Owensville					2											
Republic High School					4								1			
Richmond School District															1	
Ritenour Sr. High, St. Louis					9								1	3		

Program Area

School	AB	ACR	AM	BT	B&O	DA	EL	EN	GA	HO	HT	MS	PEP	SEQ	SN	WD
Riverview Gardens H. S.					1											
Rockford School District					1											
Rolla AVTS					1											
Ruskin H. S., Kansas City					7											
St. Clair Public Schools					4											
St. Charles School District					3					13						
St. Joseph School District					12					10			3			
St. Louis Comm. College	4	13	15	4			14			15		16	6		10	25
St. Louis Public Schools				13	3					5					1	8
St. Mary's College					1											
St. Vincent's Hospital										1						
Salem Sr. High School													1			
Santa Fe School District					2										1	
Savannah High School					4								4	2		
School Dist. of Hancock Pl.					4											
School Dist. of Kansas City					7					20			1			
Scotland Co. School District					2											
Scott Co. Schools, Chaffee													2			
Seneca High School					2											
Sikeston Public Schools										2			71			
Slater School District					7											
Soldan H. S., St. Louis					1								2			
South-Central AVTS					5								9			
South Harrison Sch. Dist.																2
South Reynolds Co. School										16						
South Shelby High School					2											
Southwest R-5 School					3								1			
Sparta School District					4											
Special Dist, Town & Country					1					6		1		1		
Springfield School District			7		21					3						25
Stewartsville Schools					2											
Sun Electric Corp.			3													
Sweet Springs Public Schools					4								2			
Trenton Junior College													4			
Troy School District					3											
Univ. of Missouri, Columbia															8	
Visiting Nurses of Kansas City										4						
Wade & Sons, Independence												4				
Warren County Sr. H. S.													8			
Warrensburg AVTS					53								36	3		12
Waynesville Schools																3
Westphalia High School					1											
West Plains Prob. & Parole													4			
West Plains Public Schools										2						
Westran Public Schools					3											
Windsor H. S., Imperial					3											
Windsor High School													2			
Winnetonka High School					1											

AB - Auto Body
 ACR - Air Conditioning/Refrigeration
 AM - Auto Mechanics
 BT - Building Trades/Construction
 B&O - Business & Office
 DA - Dental Assisting
 EL - Electronics
 EN - Energy

GA - Graphic Arts
 HO - Health Occupations
 HT - High Technology
 MS - Machine Shop
 PEP - Pre-Employment Preparation
 SEQ - Sex Equity/Upward Mobility
 SN - Special Needs
 WD - Welding